Please amend claims 1, 26, 35, 36 and 43 as shown below. Applicant presents the claims as amended below and encloses a separate sheet indicating the amendments to the claims with bracketing (indicating deletions) and underlining (indications additions).

1.   (Twice Amended) A method for controlling the simulated interfacing of a first body controlled by a user with a second body, while providing haptic feedback to the user on such interfacing including:

storing selected representations of said first body and of said second body in a processing apparatus, the representation for one of said bodies including an implicit representation and a binary space partition tree and the representation for the other body being a discrete representation;

using a user controlled interface device to control simulated movement of the first body relative to the second body;

detecting any collision between the first body and the second body, including the position on each body of each collision, the direction of the collision, and force for the collision;

converting the detected direction, point and force for each collision into at least one force vector on the first body; and

applying said at least one force vector as a corresponding feedback force vector to said interface device, and thus to the user.

26.   (Twice Amended) A system for controlling the simulated interfacing of a first body controlled by a user with a second body, while providing haptic feedback to the user on such interface including:

at least one memory storing selected representations of said first body and of said second body, the representation for one of said bodies including an implicit representation and a binary space partition tree and the representation for the other body being a discrete representation;

a user controlled hepatic interface device; and

processing apparatus responsive to said interface device for providing simulated movement of the first body relative to the second body, said processing apparatus detecting collisions

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between the bodies resulting from such simulated movement, including the position on each body of each collision, the direction of the collision, and force for the collision, converting the detected direction, point and force for each collision into at least one force vector and, feeding back the at least one force vector through said interface device.

35.   (Amended) A method of providing haptic feedback corresponding to full-body contact between a first object controlled by an interface device and at least one second object, the method comprising acts of:

storing a first three dimensional representation and a second three dimensional representation of the first object and the at least one second objects, respectively, wherein one of the representations includes at least one region defined by a implicit equation and the other representation includes a point cloud and a bounding volume hierarchy;

determining presence or absence of penetration of the first and second representations at each point in the point cloud;

computing a vector having a magnitude related to depth of the penetration and a direction related to direction of penetration of each penetration;

computing at least one force vector corresponding to the full-body contact between the first and second object based on at least one of the penetration vectors.

36.   (Amended) The method of claim 35, wherein the act of determining a presence or an absence of a penetration includes an act of traversing the bounding volume hierarchy, each successive determination of a presence or an absence of a penetration involving portions of the bounding volume for which the presence of a penetration was determined.

43.   (Amended) In a virtual three-dimensional environment including a haptic interface device to control a simulated movement of at least one first object with at least five degrees of freedom with respect to at least one static object, the at least one first object represented by one or more geometric regions, a method of generating a posture map of the at least one first object, the method comprising acts of: